

Remarks:

Claims 1, 3, 4, 6, 7, 9-14 and 16-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,339,434 (the West reference) in view of U.S. Patent No. 5,909,205 (the Furuhashi reference). “In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. MPEP §2143 provides:

“To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

Respectfully, neither of the above three basic criteria is met. The Applicant, therefore, traverses the obviousness grounds of rejection because a prima facie case of obviousness cannot be established, unless all the noted three criteria are met.

The first criterion is not met as the Examiner has failed to refer to any portion of the cited references that suggest a motivation for combining the two references. The Applicant has reviewed the two cited references (i.e., West and Furuhashi) thoroughly and has not been able to find any suggestion or teaching either expressed or implied in the cited prior art references for combining or modifying the devices disclosed therein.

It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious, unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Thus, the examiner is requested to point out such suggestion to combine or modify more specifically by citing to portions in each reference that suggest that West

can be modified in light of the teachings of the Furuhashi to correct keystone distortions in the manner recited in claim 1.

Pursuant to MPEP §2144.03, while “[t]he rationale supporting an obviousness rejection may be based on common knowledge in the art or “well-known” prior art . . . [i]f the applicant traverses such an assertion the examiner should cite a reference in support of his or her position. When a rejection is based on facts within the personal knowledge of the examiner . . . the facts must be supported, when called for by the applicant, by an affidavit from the examiner.”

Therefore, if the Examiner has based his rejection on “common knowledge” or “well known” prior art, Applicant respectfully requests that the Examiner cite a reference or alternatively provide an affidavit in support of his rejection as required under MPEP §2144.03. Otherwise, the Examiner is requested to point out the portions in each reference that suggest the desirability or motivation for combining the two with more specificity.

The second criterion for establishing a prima facie case of obviousness is not met either, because there is no expectation that the combination of the two references can be successful in producing the result contemplated by the Examiner. Particularly, in rejecting the claims, the Examiner has referred to FIGS. 1, 7B, and 11 of the West reference and FIG. 1 of the Furuhashi reference, contending that said figures teach or suggest the claimed invention.

The cited figures disclose two distinct and complex systems that include components designed to function in a particular order in relation to one another. As such, even if a person skilled in the art had knowledge of the teachings of the two references, he would not have been able to determine how to combine the two to achieve the result produced by the present invention, as claimed.

For example, the Examiner contends that it would have been obvious for a person of ordinary skill in the art to use the Line Memory 111 and Frame/Line Memory Control Circuit 112 shown in FIG. 1 of the Furuhashi reference to modify the West reference. The Examiner has failed to point out, however, which one of the embodiments disclosed in West can be modified, or even how such modification is possible considering the specific electrical design and signal processing relationships disclosed in both the West and Furuhashi references.

Respectfully, the Examiner has seemingly selected various electronic components from each reference without regard to the relationship between the components and the manner each component operates in its specific environment in order to establish a *prima facie* case of obviousness. That is, the Examiner has used a mix and match technique in an attempt to force a conclusion not supported by either of the references.

As an example, referring to Line Memory 111 in FIG. 1 and column 7, lines 30-45 of Furuhashi, a frame of pixels stored in Frame Memory 110 is fed one line at a time to the Line Memory 111 as controlled by signals provided by a Frame/Line Memory Control Circuit 112. Thereafter, each line of data stored in Line Memory 111 is fed to the Enlargement Processing Control Circuit 118.

Referring to FIG. 1 and column 9, lines 40-46 of Furuhashi, the Enlargement Processing Control Circuit 118 “performs the enlargement processing on the basis of the frame memory data 115 and the line memory read data 116, and then outputs the enlargement-processed result as the video signal 119 to the display timing generating circuit 120.” That is, image data stored in Line Memory 111 is unprocessed.

In contrast, the claimed apparatus and process of the present invention is patently distinguishable from the above teaching of Furuhashi because the line memory 104, as claimed, receives and stores each line of output image generated from the

format converter 102 *after* the horizontal size generator 101 has fed a corresponding horizontal output size to the format converter 102 for each line of the output image.

As such, the each line stored in memory 104 is already processed and formatted by format converter 102 prior to it being forwarded to memory 104. Conversely, in Furuhashi (col. 9, Ins. 40-46) image data is formatted and processed by the Enlargement Processing Control Circuit 118, after it has been stored in Line Memory 111. Accordingly, the Furuhashi reference teaches away from the claimed invention by disclosing an opposite order of image processing and storage.

'A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.' In re Rijkaert, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). Since, the teachings of Furuhashi are inconsistent with those of the claimed invention, it is highly doubtful that one of ordinary skill in the art would have combined such teachings with those of West. Particularly, nothing in the prior art references themselves suggests the advantage to be derived from combining the teachings. (See In re Sernaker, 217 USPQ 1, 6 (Fed. Cir. 1983)).

The third criterion for proving obviousness is also not met. That is, the West reference neither alone nor in combination with the Furuhashi reference teaches or describes all elements of the claimed invention. Neither reference discloses, teaches, or suggests "a sync generator" or "line memory" with the characteristics disclosed above for "generating read control signals based on sync signals and horizontal output sizes; and storing each line of output image generated from a format converter and outputting stored line of the output image according to the read control signals." The Examiner is invited to point out the relevant portions of the cited references that teach such components and relationships more specifically.

In summary, the cited prior art references cannot be combined to teach the claimed invention because the two systems disclosed in West and Furuhashi are

independently complex and cannot be easily modified to complement or work with each other. Even if the two systems can be combined, the resultant combination will not function to address the problem solved by the present invention, as discussed above. Further, no reasonable justification is provided in the Office Action as to how such combination is possible. Since obviousness may not be established by hindsight reconstruction or conjecture, it is respectfully submitted that the 103 rejection is improper.

Furthermore, it is respectfully maintained that the cited references are non-analogous prior art and therefore improper 103 references. The West reference is directed to an image scaling circuit for increasing or decreasing the size of a sampled image to match a fixed resolution display. Particularly, this reference teaches resizing frames of image data at high speed in flat panel displays by a real number scale factor (see Abstract, col. 2, Ins. 12-15 and 24-30). Thus, the West reference is directed to a field of endeavor related to resizing image data in flat panel displays. The problem solved by the West reference is to allow scaling based on real number scale factors, as opposed to integer scale factors.

The Furuhashi reference is directed to a control device for a liquid crystal display which can display pictures in a magnification mode by using a memory having low-speed access and a low storage capacity (Abstract). The problem solved by the Furuhashi reference is to minimize the cost of production of liquid crystal displays by introducing a method to use a low cost memory instead of the more expensive high-speed access high capacity memory (see col. 1, Ins. 15-17 and col. 2, Ins. 54-67).

The criteria for determining whether prior art is analogous are twofold. First, one must determine whether the art is from the same field of endeavor, regardless of the problem addressed. Second, if the reference is not within the field of the inventor's endeavor, one must determine whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. In re Deminski, 796 F.2d 436,

442, 230 USPQ 313, 315 (Fed. Cir. 1986); In re Wood, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979).

In contrast to the West and Furuhashi references, the field of endeavor of the claimed invention is directed to correcting Keystone distortion, which results in a trapezoidal display of a nominally rectangular picture. This distortion is produced, generally, when a picture is projected abnormally to the screen for example when the projector is aligned above or below a plane that horizontally intersect the screen. According to the present invention, digital correcting means instead of physical means, such as optical lenses, are utilized to correct this particular type of distortion.

Thus, both the field of endeavor and the problems solved by the present invention are different from those disclosed in the prior art references. Accordingly, it is respectfully requested that the rejection of the pending claims to be withdrawn, because the cited references are non-analogous art.

For the above reasons, the invention as recited in the claims 1, 4, 7 and 14 should be in condition for allowance. Claims 3, 6, 9-13 and 16-20, respectively depending on claims 1, 4, 7 and 14 should also be in condition for allowance, by the virtue of being dependent upon allowable independent claims.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein; and no amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have expressly argued herein that such amendment was made to distinguish over a particular reference or combination of references.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California, telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,
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